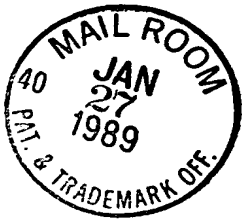07303319

APPLICATION FOR UNITED STATES PATENT

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Invention: CENTRALIZED CONSUMER CASH VALUE ACCUMULATION SYSTEM FOR MULTIPLE MERCHANTS

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SPECIFICATION

CENTRALIZED CONSUMER CASH VALUE ACCUMULATION SYSTEM FOR MULTIPLE MERCHANTS

Field of the Invention

The present invention relates to a centralized system of accumulating cash value for consumers based upon point-of-sale transactions. More speci-

5   fically, the present invention relates to such a system in which each participating merchant may set its own credit rate for cash value to accumulate on each sale irrespective of a rate set by any other merchant and independent of a central authority.

10   Summary of the Invention

In accordance with the principles of the present invention, a consumer, upon making a purchase from a merchant, will obtain a credit value equal to a portion of the amount of the purchase. The portion

15   which is to be credited is determined at the point-of-sale from a rate selected by that merchant irrespective of the rate selected by any other merchant independent of a central authority. The credit value is then transmitted to a central system communicating

20   with all of the participating merchants, whereat the

credit value is added to a cash value maintained for that consumer's account. At preselected intervals, such as on the occasion of the consumer's birthday, that consumer is given access to cash in an amount

5 equal to the accumulated cash value. The credit value is also added to a bill value maintained in an account for the involved merchant who is periodically billed the accumulated bill value amount. To reduce security problems, the consumer provides the merchant at the

10 point-of-sale only the consumer's account number and birthdate. To avoid necessity for issuing account numbers to consumers, the account number may be the consumer's Social Security number. This information may be encoded in a magnetic strip of a plastic card

15 which is inserted into a reader at the point-of-sale. The merchant inputs the amount of the sale and, based upon the credit rate selected by the merchant, the credit value is determined. The credit value is then transmitted to the central system along with the

20 consumer's account number and birthdate whereat the credit value is added to the cash value maintained in the consumer account associated with that unique account number and the birthdate.

While groups of consumers may share a common

25 birthdate (month and day, for example) Social Security numbers are unique. Hence, Social Security numbers are preferably utilized as consumer account numbers to

access the appropriate account to increase the cash value according to the credit value, while birthdates may be used to verify that the account is appropriate. On the other hand, for giving the consumer access to

5 money, all accounts sharing a selected birthdate are accessed and individually an authorization is issued to allow each consumer to access cash in the amount of the accumulated cash value in that consumer's account. Preferably, the consumer may then access the money

10 through an electronic terminal for dispensing funds such as a bank terminal or the like which communicates with the central system to issue funds when the authorization is present. Alternatively, the central system may issue checks to the consumers. In this

15 way, consumers build up cash value by buying products from participating merchants independent of how that product is paid for, such as by cash, check or credit card. Further, utilization of the system enables merchants to attract consumers to their place of

20 business with the promise of subsequent cash rebates based upon purchases by that consumer. And, as each merchant may independently select the rate at which credit is earned, and independent of the central system, merchants are free to use varying levels of

25 incentive depending upon the type of product (or service) involved and other economic or commercial considerations.

Yet further, because the information related to credits and accounts is handled at a centralized system, the merchants are freed from handling the paperwork and/or devoting valuable computer time and

5 space and operating personnel to the management of the cash value accumulating system. Security is also enhanced because the myriad of sales personnel and other employees of the various merchants will not have "exit" access to the consumer accounts (i.e., to

10 obtain authorization to access funds or have checks issued).

These and other objects and advantages of the present invention shall be made apparent from the accompanying drawings and the description thereof.

15 Brief Description of the Drawing

The accompanying drawing, which is incorporated in and constitutes a part of this specification, illustrates an embodiment of the invention and, together with a general description of the invention

20 given above, and the detailed description of an embodiment given below, serves to explain the principles of the invention.

The FIGURE is a block diagram of an exemplary consumer cash value accumulating system in

25 accordance with the principles of the present invention.

Detailed Description of the Drawings

With reference to the Figure, there is shown a block diagram of an exemplary customer cash value accumulating system 10 having a central system 12 and

5 a plurality of merchant locations 14, in this case four although there could be more or fewer than four. Each merchant location 14 includes at least one computer unit 16 such as a microprocessor and associated peripherals which communicates, over a common bus

10 18, for example, with a consumer data input device 20, a transaction data input device 22, a memory 24 and an input/output (I/O) device 26.

Consumer data input device 20 is located at the point-of-sale to a consumer of merchandise or

15 services from a selected merchant. Device 20 may be a keyboard into which a consumer may enter the consumer's account number and date of birth. In a preferred embodiment, the consumer's Social Security number is used as the account number. Alternatively,

20 device 20 may take another form such as a magnetic card reader adapted to read the magnetic stripe on a plastic card inserted into the reader. In the latter event, the magnetic stripe would be encoded with the consumer's account number and date of birth. Where a

25 plastic card is used, device 20 may also include a keyboard for entry of a personal identification number

(PIN) by which to verify against a code stored in the magnetic stripe that the card is being used by the appropriate individual at the point-of-sale.

5   Transaction data input device 22 is also located at the point-of-sale and typically would be a keyboard or the like by which the sales clerk, for example, would enter the dollar amount of the merchandise purchased by the consumer. Device 22 could be the cash register. Alternatively, device 20 and

10   device 22 could share a single keyboard.

The consumer data and transaction data entered through devices 20, 22 may be temporarily stored in memory 24. Memory 24 may also include merchant data along with software to direct operation

15   of computer 16 as will be described. The merchant data includes at least a merchant code number to identify that merchant. Merchant data may also include information indicating the time or location of the sale and/or the identification of the sales clerk,

20   for example. Importantly, memory 24 also includes a credit rate selected by that merchant at which cash value is to be accumulated by the consumer for purchases from that merchant. The credit rate for one merchant is selected by that merchant and not by any

25   other merchant or the central system.

As is well understood, computer 16 will function in accordance with the operating program

stored in memory 24. To this end, computer 16 may verify that the PIN number matches a code on the card to verify that the user is authorized on that card. Computer 16 will also determine a credit value for the

5   transaction based upon the transaction data input and the credit rate (e.g., purchase of $25.00 and credit rate of .10 = $2.50 credit value) and will output to the central system 12, through I/O device 26 and communication line 30, the consumer's account number

10   and birthdate, the credit value for that transaction and the merchant data.

        Central system 12 communicates with line 30 through its own I/O device 40. I/O devices 26 and 40 may be modems and line 30 a telephone line, for

15   example. Further, each merchant location 14 may communicate with central system 12 either separately through I/O device 40 or collectively through multiple I/O devices 40 (only one shown) as is well understood.

        Data received by central system 12 through

20   I/O device 40 is coupled to common bus 42 which permits communication between I/O device 40, bill printer 44, access authorization unit 46, memory 48, consumer accounts memory 50, merchants account memory 52 and computer 54 which may also be a microprocessor

25   and associated peripherals. Consumer accounts memory 50 includes a plurality of consumer accounts and, for each such account, includes at least an account number

segment unique to that account and consumer, and a cash value segment. Each account may also include a birthdate segment applicable to that consumer. Alternatively, memory 50 could include a look-up table

5   of all account numbers associated with a respective birthdate. Similarly, merchant account memory 52 includes a plurality of merchant accounts and, for each such account, includes at least a merchant code number segment unique to that account and merchant and

10 a bill value segment.

The data received at I/O device 40 is sorted out by computer 54 under control of an operation program stored in memory 48. Specifically, the account number portion of the received data is

15 examined to locate the consumer account in memory 50 having the same account number segment. The birthdate portion of the received data may be used to verify that the account is proper, i.e., it includes the same birthdate segment or is associated with that birthdate

20 in the look-up table. Once the proper account is found, the cash value segment is incremented by the amount of the credit value data received from the merchant for that transaction. The received merchant data is similarly employed to locate the appropriate

25 merchant account in memory 52. The bill value segment is then incremented by the amount of the credit value data received from that merchant. Additional merchant

data segments may be included to provide a listing of transactions for each merchant when the bill is printed as will be described.

Periodically, such as once a month, each
5   merchant account in memory 52 is examined. If the bill value for any particular merchant is greater than zero, a bill is generated at printer 44 and the bill value for that merchant reset to zero. The bills printed by printer 44 may then be mailed to the
10 respective merchants. Each of the bills may also include an added fee from the operator of central system 12 and may further include a list of transactions for that merchant if that information was stored in memory 52.

15   Also, at selected times, each consumer account in memory 50 having a selected birthdate segment may be examined. For each such account, if the cash value is greater than zero, the amount of the cash value is provided to access authorization unit 46
20 along with at least the consumer's account number. The cash value in the consumer account is then reset to zero. In unit 46, which may be a memory, a consumer's access account is established having the consumer account number and an access value equal to
25 the cash value. The access value may also include any access value not previously withdrawn by that consumer. Unit 46 may communicate with one or more electronic terminals adapted to dispense funds

represented as at 60 such as the type used by
individuals to access bank accounts to obtain or
deposit funds. The consumer may enter a plastic card
bearing the account number (and birthdate) in a

5 terminal 60 which after verification against a PIN
number entered by the consumer, for example, will
access the consumer's access account in unit 46 and
dispense funds up to the amount of the access value in
that account. The amount of the access value will be

10 reduced accordingly. Alternatively, unit 46 could be
adapted to communicate with banking institutions for
wire transfer or the like of funds directly to a
consumer's bank account at selected intervals. As
another alternative, unit 46 could be a check printer

15 which prints checks for each consumer as appropriate.
The checks so-printed may then be mailed to the
respective consumers.

Preferably, the consumer accounts are
examined and access to funds authorized at or near the

20 time of the month and day of the consumer's birthdate.
Thus, for example, each day, all accounts having that
date as a birthdate segment will be examined and
access to funds authorized. The examination could be
on some other basis. For example, all accounts having

25 birthdate segments for several consecutive days may be
examined a week ahead of time so that access authori-
zations are provided or checks issued once a week.

Other daily, weekly, biweekly or monthly schedules may be employed.

Although shown separately, where unit 46 is a printer, printers 44 and 46 could be the same

5 printer. Printer 44 could alternatively be adapted to communicate with appropriate bank or like accounts for wire transfer or the like of funds from a merchant's account for collection and payment of the bill value and other fees. Although electronic, this alternative

10 may still be deemed to be generating a bill within the scope of the invention. Also, consumer accounts memory 50 and merchant accounts memory 52 are shown separately but may be combined into one memory and may even form part of memory 48. Further, unit 46 may

15 also utilize memory 48.

Data from each merchant location 14 may be transmitted to central station 12 concurrent with the point-of-sale transaction, or the memory 24 may temporarily store the data associated with one or more

20 such transactions and then transmit the stored data to the central system at another time. The latter may be preferred so as not to unduly tie-up telephone lines or to take advantage of lower nighttime telephone rates, for example. Further, subsequent transmission

25 may be under control of central system 12 and, thus, occur at a time or times most appropriate for central system 12 to spread out its tasks over a period of time.

Each merchant may have several points-of-sale each equipped with consumer and transaction data input devices 20, 22. Memory 24, outputs 26 and I/O device 26 for each merchant location may be replicated

5 at each point-of-sale. Preferably, however, only the input devices 20, 22 are so-replicated for any merchant such that only one computer 16 associated with that merchant location is necessary.

In operation, when a consumer makes a

10 purchase, the consumer's Social Security number and birthdate are entered along with the amount of the purchase at the point-of-sale. Where a plastic card with a magnetic stripe is used for entry of the consumer data, a PIN code is also entered and verified

15 against a code stored on the card. A credit value for that transaction is then determined based upon the credit rate stored in memory 24 as selected by that merchant and the dollar amount of the particular transaction involved. Subsequently, the consumer

20 data, merchant data and credit value are transmitted to the central system whereat the cash value in the consumer account having the appropriate account or Social Security number and birthdate segments is incremented by the amount of the credit value.

25 Similarly, at the central system, the bill value in the merchant account having the appropriate merchant code number segment is also incremented by the amount

of the credit value. Periodically, such as monthly,
bills are sent to the merchants for at least the bill
value amount which is then reset to zero. Similarly,
at selected intervals all consumers having one or more

5   selected common birthdates are provided access to
funds in the amount of the cash value shown in the
consumer accounts associated with those individuals
and the cash values then reset to zero. Such access
may be by authorized access to an access account or by

10   checks issued directly to that consumer, for example.

By virtue of the foregoing there is thus
provided a centralized consumer cash value accumu-
lation system wherein multiple merchants may partici-
pate, each selecting its own rate at which consumers

15   accumulate cash value for their purchases and indepen-
dent of how the consumer pays for the transaction such
as whether by cash, check or credit card. Further-
more, the system thus provided is secure in that
access to money value is only at or through the

20   central station.

While the present invention has been illus-
trated by description of an embodiment and while the
illustrative embodiment has been described in consid-
erable detail, it is not the intention of the appli-

25   cant to restrict or in any way limit the scope of the
appended claims to such detail. Additional advantages
and modifications will readily appear to those skilled

in the art. The invention in its broader aspects is therefore not limited to the specific details, representative apparatus and method, and illustrative example shown and described. Accordingly, departures

5 may be made from such details without departing from the spirit or scope of applicant's general inventive concept.

What is claimed is: